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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,531	09/12/2003	Takahiro Yamada	040302-0345	5327

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EXAMINER

KALAFUT, STEPHEN J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,531

Applicant(s)

YAMADA ET AL.

Examiner

Stephen J. Kalafut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date (2 dates).

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation of “an exhaust outlet provided on the surface of a vehicle” is confusing, since it appears to require the presence of a vehicle, while the claims are drawn to a “container structure for a fuel cell”, which would not require the vehicle to be present.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (JP 8-293,316) in view of Moulthrop *et al.* (US 5,980,726) and Saito *et al.* (US 6,605,378).

Takeda discloses a container structure (19) for a fuel cell (1) that is divided into a fuel cell housing unit and an exhaust manifold (25) by a separate plate, through which air flows by means of a plurality of orifices that each contains an exhaust fan (22). Air enters the container via an inlet (23) and exits via an exhaust hole (27). The present claims differ from Takeda by reciting pipes for the air input and exhaust, the exhaust pipe connected to an outlet on the surface of a vehicle, and by reciting that the air pressure in the cell housing unit is above atmospheric but below the pressure of a fuel cell gas. Moulthrop *et al.* disclose a fuel cell container in which the air pressure is maintained slightly positive (column 3, lines 30-34), but which also allows “uncontained hydrogen” to be carried away therewith (column 3, lines 56-61), which would

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indicate that the pressure of this air is below the pressure of the H₂ in the fuel cell. This pressure is maintained in part by an inlet fan (23). To obtain the safety afforded by the arrangement disclosed by Moulthrop *et al.*, due to its ability to remove uncontained hydrogen, it would be obvious to set the pressure of the interior of the fuel cell container of Takeda according at the relative pressures of Moulthrop *et al.* Saito *et al.* disclose a fuel cell container with an oxidant input pipe (98) and an oxidant exhaust pipe (82), which may be used on a vehicle (column 4, lines 23-27). Because these pipes would enable fuel cells to be used on vehicles due to their ability to convey air to and away from the fuel cells, it would be obvious to connect the pipes of Saito *et al.* to the fuel cell enclosure of Takeda. The exhaust manifold (25) of Takeda would function as the pipe connecting the separate plate to the exhaust pipe, as well as being an upper lid portion. The relative positioning of the above-mentioned pipes, fuel cell housing unit, exhaust manifold, exhaust port and separator plate would be a matter of design to the ordinary artisan, who would be constrained and therefore motivated by the size and shape of the available space on the vehicle.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda in view of Moulthrop *et al.* and Saito *et al.* as applied to claim 1 above, and further in view of Koehler *et al.* (US 4,578,324).

This claim differs from the above combination in that the orifices in the separate plate close to the exhaust port are small, while those farther away are large. Koehler *et al.* disclose a coolant exhaust manifold (27) in which orifices (26) located closer to an exhaust pipe (31) are smaller than those farther away. Because this helps to equalize fluid pressures (column 4, lines

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24-33), it would be obvious to vary the sizes of the orifices disclosed by Takeda as shown by Koehler *et al.*

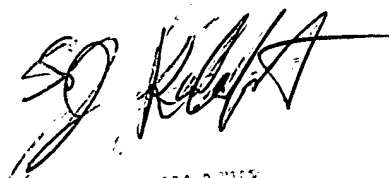
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohzu *et al.* (US 4,895,774) disclose a fuel cell housing with manifolds and exhaust pipes. An English translation of Takeda, from the Japanese Patent Office website, is enclosed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sjk


STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1700